

DaimlerChrysler AG

Patent Claims

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1. A method for monitoring the pressure of motor vehicle tires, during which a tire pressure value which describes the tire filling pressure is determined, the determined tire pressure value is compared with a stored nominal value and the comparison result is used to deduce whether the motor vehicle tire is at an incorrect tire pressure, in particular a low tire pressure, characterized
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- in that when the tire pressure changes in a manner which is characteristic of a filling process, the stored nominal value is replaced by a new nominal value, with the determined tire pressure value being used to determine the new nominal value.
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2. The method as claimed in claim 1, characterized
- in that a comparison of the determined tire pressure value with a stored comparison pressure value, determined at an earlier time, is used to determine whether a characteristic change has occurred in the tire pressure value.
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3. The method as claimed in claim 2, characterized
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- in that a characteristic change in the tire pressure value occurs when the difference between the determined tire pressure value and the stored comparison pressure value is greater than a predeterminable threshold value.
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4. The method as claimed in claim 3,

- characterized
in that a characteristic change in the tire
pressure value occurs when the difference between
the determined tire pressure value and the stored
5 comparison pressure value is greater than a
predeterminable threshold value for at least two
wheels.
5. The method as claimed in one of claims 3 or 4,
10 characterized
in that the threshold value is 0.2 bar.
6. The method as claimed in one of claims 3 to 5,
characterized
15 in that a characteristic change in the tire
pressure value occurs only when the vehicle has
been stopped or started between the time of
determination of the determined tire pressure
value and the earlier time of storage of the
20 stored comparison pressure value.
7. The method as claimed in one of claims 2 to 6,
characterized
in that
25 - a determined tire pressure value is subjected
to a plausibility check if a characteristic
change in the tire pressure value has been
determined, and
- a determined tire pressure value is stored as
30 a comparison value only when the determined
tire pressure value has been classified as
plausible.
8. The method as claimed in claim 7,
35 characterized
in that a tire pressure value such as this is
classified as plausible only if the difference

between this first tire pressure value and a further tire pressure value associated with the same vehicle axle and the opposite vehicle side is less than a predeterminable threshold value, in particular less than 0.4 bar.

9. The method as claimed in one of claims 7 or 8, characterized in that a tire pressure value is classified as plausible only when all of the determined tire pressure values are above a predeterminable threshold value, in particular greater than 1.6 bar.
10. The method as claimed in one of claims 7 to 9, characterized in that a tire pressure value is classified as plausible only when the determined tire pressure value associated with the rear vehicle axle is greater than the mean value of the determined tire pressure values associated with the front vehicle axle, with a predeterminable constant also being subtracted.
11. The method as claimed in one of claims 7 to 10, characterized in that a tire temperature and an ambient temperature are determined, and a tire pressure value is classified as plausible only when the difference between the tire temperature and the ambient temperature is less than a predeterminable threshold value, in particular less than 40 K.
12. The method as claimed in one of claims 7 to 11, characterized in that a tire pressure value is classified as plausible only when the respective plausibility

conditions are satisfied at least for a predeterminable time period, in particular for at least 3 minutes.

- 5 13. The method as claimed in one of the preceding claims,
characterized
in that a tire temperature value is determined,
and is used for determination of the tire pressure
10 values.
14. The method as claimed in claim 13,
characterized
in that the temperature influence is compensated
15 for in the determination of the tire pressure values.